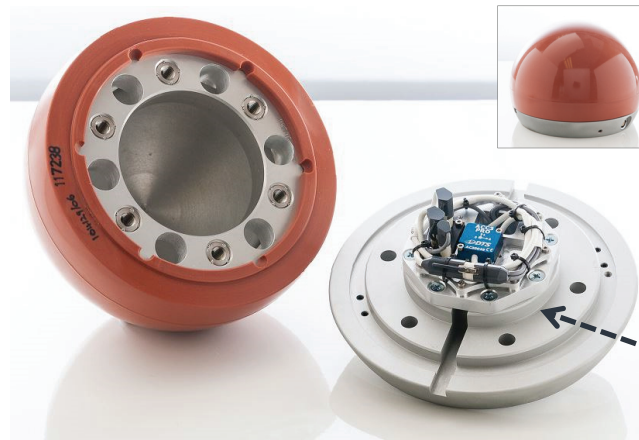MEETS SPECIFICATIONS FOR
EU & US NCAP TESTING

SLICE Pedestrian Headform Impactor
Integrated Data Acquisition for Cable-Free Operation

## APPLICATIONS

- Pedestrian Headforms

SLICE NANO also works with FLEX Pedestrian Legforms & Free Motion Headforms

The SLICE Pedestrian Headform Impactor integrates the ultra-small SLICE NANO data acquisition system into a cable-free solution for pedestrian safety testing. Offering the ultimate in flexibility and reliability, the headform is armed via a PC, disconnected, then powered and launched any time without trailing cables. The system can be triggered with a level trigger or contact closure and writes data to flash memory.

The SLICE Pedestrian Headform Impactor features an integrated 3-channel SLICE NANO data acquisition system and a triaxial accelerometer (shown with a DTS ACC3). Embedding the data recorder eliminates trailing cables that may get tangled or cause issues with noise or data loss. The turn-key solution is engineered to maintain proper mass, center of gravity (CG) and moments.

Embedded in the backplate is a 3-channel SLICE NANO system with a BASE+ unit, one Bridge and a Battery SLICE.
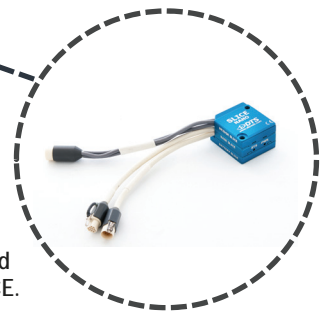
Features

- Cable-free operation
- Engineered to assure proper mass, CG and moments
- Level trigger or contact closure
- Intuitive, easy-to-use software
- Embedded data recorder supports a triaxial accelerometer, data writes directly to 16 GB flash memory
- Optional 3-axis angular rate sensor (ARS)
- Integrated internal battery
- Complies with ISO 6487 and SAE J211 recommended practices, as well as NHTSA and FAA requirements

Software

DTS offers two powerful software options for the SLICE headform. SLICEWare provides fast, easy tools for storing sensor information, performing data collection, viewing and exporting data. DataPRO is a fully-featured software with a comprehensive database and user interface for tracking sensor information, creating test objects and test setups, performing diagnostic routines, and conducting tests. Both software packages feature the most advanced self-diagnostics, plus support for EQX, ISO MME and many other data exchange file formats.

PRODUCTS

Diversified Technical Systems designs and manufactures data acquisition systems and sensors for experienced test professionals.

/ PEDESTRIAN SAFETY TESTING

Adult Headform 4.5 kg
Child Headform 3.5 kg

DTS
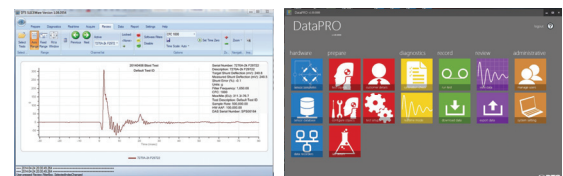
www.dtsweb.com

DSH-030 (Rev 08.2017)

Specifications

BASE+ SLICE NANO
One (1) required per stack – system microprocessor & memory

Size:	26 x 31 x 6.5 mm (1.02 x 1.22 x 0.26")
Weight:	14.2 g (0.50 oz)
Connectors:	Omnetics, circular locking, 12-pin

BRIDGE SLICE NANO
Three (3) inputs for external sensors

Size:	26 x 31 x 5.5 mm (1.02 x 1.22 x 0.22")
Weight:	13.8 g (0.49 oz)
Connectors:	Omnetics, circular locking; 3 single-channel 7-pin or 1 three-channel 16-pin
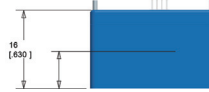
BATTERY SLICE
Designed specifically for headform

Size:	26 x 31 x 16 mm (1.65 x 1.65 x 0.63")
Weight:	27 g (0.95 oz)
Charge Status:	Backup battery charges when input voltage to BASE SLICE is greater than 11 VDC
Charge Time:	~60 min. from complete discharge to full charge (100 mA at input connector on Base)
Discharge Rate:	~15 minutes for 3 channels ~7 minutes for 6 channels

SIGNAL CONDITIONING

Number of Channels:	3 differential, programmable
Input Range:	±2.4 V (2.5 V center)
Bandwidth:	DC to 35 kHz, programmable
Gain Range:	1.0-1280, programmable
Auto Offset Range:	100% of effective input range
Bridge Support:	Software controlled half-bridge completion
Shunt Check:	Emulation method, automatically calculated
Sensor ID:	Maxim Integrated (Dallas) silicon serial number
Linearity (typical):	≤0.2% (gain 1 to 320), ≤0.5% (gain >320)
Accuracy:	0.5% including reference uncertainty

ANALOG-TO-DIGITAL CONVERSION

Type:	16-bit SAR (Successive Approximation Register) ADC, one per channel, simultaneous sample of all channels

EXCITATION

Method:	Independent regulator for each channel
Voltage:	5.0 V, up to 20 mA, short circuit safe
Power Management:	Shutdown when not armed or recording

ANTI-ALIAS FILTER

Fixed Low Pass:	4-pole Butterworth, standard knee frequency at 40 kHz
Adjustable Low Pass:	5-pole Butterworth set by software from 1 Hz to 35 kHz
Response:	Meets SAE J211/ISO6487 response corridors

SOFTWARE

|	
Control:	SLICEWare, DataPRO
Operating Systems:	Windows® 7/8/10 (32- and 64-bit)
Communication:	USB

Ordering Information

The DTS Pedestrian Headform Impactor kit can be customized for specific requirements – see available options below. Contact sales@dtsweb.com for more information.

Choose Headform Size	DTS Part Number	Description
	13000-40620	3.5 kg Pedestrian Headform (Skin & Skull kit)
	13000-40630	4.5 kg Pedestrian Headform (Skin & Skull kit)

Choose Backplate Kit	DTS Part Number	Description
	13000-40640	3.5 kg Pedestrian Backplate Kit
	13000-40650	4.5 kg Pedestrian Backplate Kit
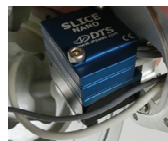
Choose DAS Kit	DTS Part Number	Description (Includes 3-channel SLICE NANO Base+ and Bridge, battery, cables & mounting brackets)+
	13000-40540	DAS Kit for DTS ACC3 PRO accelerometer*
	13000-40600	DAS Kit for 7264 type accelerometers*
	13000-40610	DAS Kit for Kyowa accelerometers*

* accelerometers ordered separately
+ requires SLICEWARE or DataPRO software
++ optional DTS ARS3 Triaxial Angular Rate Sensor available

USB Interface Kit	DTS Part Number	Description (provides power and USB com to DAS)
	13000-40660	Pedestrian Headform USB Interface Kit

DTS
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